

WHAT IS CLAIMED IS:

1. A roll holder device for loading of a supply magazine with a recording material roll in a rotatable manner, said recording material roll including a tubular  
5 spool shaft and continuous recording material wound about said tubular spool shaft in a roll form, said roll holder device comprising:

first and second holder cores inserted in respectively first and second ends of said tubular spool shaft;

10 first and second stationary sections, supported on a holder frame member of said supply magazine stationarily and removably, for supporting respectively said first and second holder cores in a rotatable manner; and

an anti-dropping mechanism for preventing said first and  
15 second holder cores from dropping from said tubular spool shaft by pushing a shaft inner surface of said tubular spool shaft.

2. A roll holder device as defined in claim 1, further comprising a bias member for biasing and pressing said anti-  
20 dropping mechanism against said shaft inner surface.

3. A roll holder device as defined in claim 2, wherein said anti-dropping mechanism includes:

a push surface for contacting said shaft inner surface;  
and

25 plural claws, formed with said push surface, for being thrust into said shaft inner surface.

4. A roll holder device as defined in claim 3, wherein said first holder core has a longer size than said second holder core.

30 5. A roll holder device as defined in claim 4, wherein ends of said first and second holder cores are connectable

with each other.

6. A roll holder device as defined in claim 5, further comprising:

a core sleeve secured to said first holder core;  
5 an access opening formed through said core sleeve;  
said anti-dropping mechanism includes an anti-dropping lever, having said push surface, shiftable between first and second positions, contained in said core sleeve when in said first position, and protruded toward an outside of said core sleeve through said access opening when in said second  
10 position, for pressing said push surface against said shaft inner surface.

7. A roll holder device as defined in claim 6, wherein said anti-dropping lever has a driven end portion disposed in  
15 said core sleeve;

further comprising a connection shaft, formed with said second holder core, inserted in said core sleeve, for shifting said anti-dropping lever from said first position to said second position by pushing said driven end portion.

20 8. A roll holder device as defined in claim 1, wherein said first and second holder cores are rotatable in unwinding and winding directions;

further comprising a load changer mechanism for applying higher rotational load to said first and second holder cores  
25 during rotation in said unwinding direction than during rotation in said winding direction.

9. A roll holder device as defined in claim 8, wherein said load changer mechanism includes:

a friction pad member for exerting braking force to each  
30 of said first and second holder cores;

a one-way clutch for connecting said each holder core to

said friction pad member during rotation in said unwinding direction, and for disconnecting said each holder core from said friction pad member during rotation in said winding direction;

5            wherein said friction pad member, when connected with said each holder core, frictionally contacts one of said first and second stationary sections.

10. A roll holder device as defined in claim 9, wherein said one-way clutch includes:

10            a ratchet wheel, secured to said each holder core, and having at least one ratchet claw;

            a tube member, provided with said friction pad member secured thereto, for containing said ratchet wheel, wherein said tube member has at least one tooth disposed inside, and  
15 when said each holder core rotates in said unwinding direction, rotates in said unwinding direction by mesh of said tooth with said ratchet claw for exertion of said braking force to said each holder core, and when said each holder core rotates in said winding direction, disengages  
20 said tooth from said ratchet claw.

11. A roll holder device as defined in claim 1, wherein first and second cutouts are formed in said holder frame member, for supporting respectively said first and second stationary sections in a rotatable manner; and

25            at least one orientation regulator mechanism for preventing said first holder core from being set in said second cutout or said second holder core from being set in said first cutout.

12. A roll holder device as defined in claim 11,  
30 wherein said first and second stationary sections include respectively first and second bearing members, inserted in

respectively said first and second cutouts, for supporting said first and second holder cores in a rotatable manner, to constitute said at least one orientation regulator mechanism.

5        13. A roll holder device as defined in claim 12, wherein said first and second cutouts have respectively a pair of edges extending with an inclination relative to a vertical direction;

          said at least one orientation regulator mechanism  
10 includes an inclined surface, formed on said first and second bearing members, inclined according to said pair of said edges, for blocking erroneous insertion of said first bearing member into said second cutout and of said second bearing member into said first cutout.

15        14. A roll holder device as defined in claim 13, further comprising first and second handle members, secured to said first and second bearing members in a pivotally movable manner, for coming substantially erect to said first and second bearing members upon being moved up, to push end  
20 faces of said recording material roll, to prevent looseness of said recording material roll.

          15. A roll holder device as defined in claim 1, further comprising:

          a roll regulator mechanism for pushing a pair of end  
25 faces of said recording material roll, to prevent looseness of said recording material roll;

          an unblocking mechanism for releasing said recording material roll from pressure of said roll regulator mechanism in response to setting of said recording material roll in  
30 said supply magazine.

          16. A roll holder device as defined in claim 15,

further comprising a bias mechanism for biasing said roll regulator mechanism toward said end faces of said recording material roll;

wherein said unblocking mechanism moves said roll  
5 regulator mechanism away from said end faces of said recording material roll against said bias mechanism upon being set in said supply magazine.

17. A roll holder device as defined in claim 16,  
wherein said roll regulator mechanism includes first and  
10 second handle members, set at said first and second ends of said tubular spool shaft in a pivotally movable manner, for coming substantially erect to said first and second bearing members upon being moved up, to push end faces of said recording material roll.

15 18. A roll holder device as defined in claim 17,  
wherein said first and second stationary sections include respectively first and second bearing members, fitted in said first and second cutouts stationarily and removably, for supporting said first and second holder cores in a rotatable  
20 manner;

wherein said first and second handle members are secured to said first and second bearing members in a pivotally movable manner, and said bias mechanism biases each of said first and second bearing members toward said recording  
25 material roll.

19. A roll holder device as defined in claim 18,  
wherein said supply magazine includes an inclined edge portion, formed at an open end of said cutout, inclined toward an inside of said holder frame member, for guiding  
30 insertion of said each bearing member into said cutout;

wherein said unblocking mechanism includes a great-

diameter portion, formed at an axial end of said each bearing member with a greater diameter, pushed by an edge of said cutout by insertion of said each bearing members into said cutout, for sliding said each bearing member away from said  
5 recording material roll.

20. A roll holder device for loading of a supply magazine with a recording material roll in a rotatable manner, said recording material roll including a tubular spool shaft and continuous recording material wound about  
10 said tubular spool shaft in a roll form, said roll holder device comprising:

first and second holder cores inserted in respectively first and second ends of said tubular spool shaft;

first and second stationary sections, supported on a  
15 holder frame member of said supply magazine stationarily and removably, for supporting respectively said first and second holder cores in a rotatable manner; and

a load changer mechanism for applying higher rotational load to said first and second holder cores during rotation in  
20 said unwinding direction than during rotation in said winding direction.

21. A roll holder device as defined in claim 20, wherein said load changer mechanism includes:

a friction pad member for exerting braking force to each  
25 of said first and second holder cores;

a one-way clutch for connecting said each holder core to said friction pad member during rotation in said unwinding direction, and for disconnecting said each holder core from said friction pad member during rotation in said winding  
30 direction.

22. A roll holder device as defined in claim 21,

wherein said one-way clutch includes:

a ratchet wheel, secured to said each holder core, and having at least one ratchet claw;

a tube member, provided with said friction pad member  
5 secured thereto, for containing said ratchet wheel, wherein said tube member has at least one tooth disposed inside, and when said each holder core rotates in said unwinding direction, rotates in said unwinding direction by mesh of said tooth with said ratchet claw for exertion of said  
10 braking force to said each holder core, and when said each holder core rotates in said winding direction, disengages said tooth from said ratchet claw.

23. A roll holder device for loading of a supply magazine with a recording material roll in a rotatable  
15 manner, said recording material roll including a tubular spool shaft and continuous recording material wound about said tubular spool shaft in a roll form, said supply magazine having a holder frame member with first and second cutouts for supporting said roll holder device, said roll holder  
20 device comprising:

first and second holder cores inserted in respectively first and second ends of said tubular spool shaft;

first and second stationary sections, fitted in said first and second cutouts stationarily and removably, for  
25 supporting respectively said first and second holder cores in a rotatable manner; and

at least one orientation regulator mechanism for preventing said first holder core from being set in said second cutout or said second holder core from being set in  
30 said first cutout.

24. A roll holder device as defined in claim 23,

wherein said first and second stationary sections include respectively first and second bearing members, inserted in respectively said first and second cutouts, for supporting said first and second holder cores in a rotatable manner, to  
5 constitute said at least one orientation regulator mechanism.

25. A roll holder device as defined in claim 24, wherein said first and second cutouts have respectively a pair of edges extending with an inclination relative to a  
10 vertical direction;

said at least one orientation regulator mechanism includes an inclined surface, formed on said first and second bearing members, inclined according to said pair of said edges, for blocking erroneous insertion of said first bearing  
15 member into said second cutout and of said second bearing member into said first cutout.

26. A roll holder device for loading of a supply magazine with a recording material roll in a rotatable manner, said recording material roll including a tubular  
20 spool shaft and continuous recording material wound about said tubular spool shaft in a roll form, said supply magazine having a holder frame member with first and second cutouts for supporting said roll holder device, said roll holder device comprising:

25 first and second holder cores inserted in respectively first and second ends of said tubular spool shaft;

first and second stationary sections, fitted in said first and second cutouts stationarily and removably, for supporting respectively said first and second holder cores in  
30 a rotatable manner; and

a roll regulator mechanism for pushing a pair of end



faces of said recording material roll, to prevent looseness of said recording material roll; and

an unblocking mechanism for releasing said recording material roll from pressure of said roll regulator mechanism in response to setting of said recording material roll in said supply magazine.

27. A roll holder device as defined in claim 26, further comprising a bias mechanism for biasing said roll regulator mechanism toward said end faces of said recording material roll;

wherein said unblocking mechanism moves said roll regulator mechanism away from said end faces of said recording material roll against said bias mechanism upon being set in said supply magazine.

28. A roll holder device as defined in claim 27, wherein said roll regulator mechanism includes first and second handle members, set at said first and second ends of said tubular spool shaft in a pivotally movable manner, for coming substantially erect to said first and second bearing members upon being moved up, to push end faces of said recording material roll.

29. A roll holder device as defined in claim 28, wherein said first and second stationary sections include respectively first and second bearing members, fitted in said first and second cutouts stationarily and removably, for supporting said first and second holder cores in a rotatable manner;

wherein said first and second handle members are secured to said first and second bearing members in a pivotally movable manner, and said bias mechanism biases each of said first and second bearing members toward said recording

material roll.

30. A roll holder device as defined in claim 29, wherein said supply magazine includes an inclined edge portion, formed at an open end of said cutout, inclined  
5 toward an inside of said holder frame member, for guiding insertion of said each bearing member into said cutout;

wherein said unblocking mechanism includes a great-diameter portion, formed at an axial end of said each bearing member with a greater diameter, pushed by an edge of said  
10 cutout by insertion of said each bearing members into said cutout, for sliding said each bearing member away from said recording material roll.

31. A supply magazine for a recording material roll including a tubular spool shaft and continuous recording  
15 material wound about said tubular spool shaft in a roll form, said supply magazine comprising:

first and second holder cores, inserted in respectively first and second ends of said tubular spool shaft;

a spring plate member for pushing an axial end of said  
20 first or second holder core, to position said recording material roll in an axial direction; and

a regulator member, disposed behind said spring plate member, for regulating a shift of said spring plate member being pushed.

25 32. A supply magazine as defined in claim 31, further comprising:

a magazine body for containing said recording material roll;

a holder frame member for supporting said first and  
30 second holder cores in said magazine body in a rotatable member;

wherein said spring plate member and said regulator member are secured to an inner face of said magazine body.